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THE CARNEGIE PROFESSIONAL GROWTH PROGRAM, AN EXPERIMENT IN THE IN-SERVICE EDUCATION OF TEACHERS.

BY- DOHERTY, VICTOR W.

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IN COOPERATION WITH THE CARNEGIE CORPORATION OF NEW YORK, THE PORTLAND OREGON PUBLIC SCHOOLS DEVELOPED A PROGRAM FOR IN-SERVICE EDUCATION. OBJECTIVES WERE TO WORK WITH UNIVERSITIES IN PREPARING IN-SERVICE COURSES FOR TEACHERS OF ALL SUBJECTS AND GRADE LEVELS, TO TRAIN PUBLIC SCHOOL TEACHERS AS IN-SERVICE EDUCATION INSTRUCTORS, AND TO FIND METHODS OF EVALUATING THE COURSES. TEACHERS IN ADJACENT SCHOOL SYSTEMS WERE INVITED TO ATTEND THE COURSES, AND, LATER, THE PORTLAND SCHOOL DISTRICT ORGANIZATION WAS DECENTRALIZED, IMPROVING COMMUNICATION BETWEEN TEACHERS AND DIRECTORS AND THUS INCREASING PROGRAM PARTICIPATION. UNCOVERED IN PLANNING THE COURSES WAS THE DIFFICULTY THAT TEACHERS EXHIBITED IN DEFINING COURSE OBJECTIVES. TO HELP ELIMINATE THIS PROBLEM, A FORM WAS DESIGNED FOR RECORDING OBJECTIVES AND LEARNING EXPERIENCES. EVALUATION OF THE COURSES WAS ACCOMPLISHED THROUGH THE TESTING AND WRITTEN COMMENTS OF TEACHERS AND STUDENTS. IN ADDITION TO IMPROVED IN-SERVICE EDUCATION, THE PROJECT RESULTED IN PROFESSIONAL GROWTH AND THE IDENTIFICATION OF TALENTED TEACHERS. (THIS ARTICLE APPEARED IN "THE JOURNAL OF TEACHER EDUCATION," VOL. 18 (FALL 1967), 261-268.) (JS)

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The Carnegie Professional Growth Program: An Experiment in the In-Service Education of Teachers

VICTOR W. DOHERTY

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The in-service education of teachers is coming more prominently than ever into the thinking of both public school and university educators. This is due in part to curriculum development projects of national scope and in part to government subsidy of educational development and research that daily unfolds new vistas of need for teacher education. These programs have made it clear that the education of teachers in service must assume as important a role as preservice education, for objectives and methods of instruction may be expected to change constantly in the light of research and development in the years ahead.

Anticipating these trends, the Board of Education of the Portland, Oregon, Public Schools in 1964 proposed to the Carnegie Corporation of New York that the district develop an in-service education program that would serve as a prototype to other city school systems throughout the nation.

Mr. Doherty is director of the Administrative Research Department, Portland Public Schools, Oregon.

This Carnegie Professional Growth Program, developed over a span of three summers and two school years, has now been completed. It resulted in the development of over one hundred and forty courses and workshops for teachers, more than one hundred and ten of which have now been taught at least once.

Objectives of the program were:

1. To train a large number of outstanding public school teachers as in-service education instructors.
2. To develop in-service courses based on a systematic consideration of needs by teachers themselves.
3. To supplement the resources of the school system with those of state and private institutions of higher education in developing and teaching in-service courses.
4. To develop in-service courses that are as rigorous as college and university courses and more closely tailored to the needs of specific teacher groups.
5. To design each course so that it would serve as a model of pedagogy to teachers being instructed.
6. To develop courses for teachers of every subject and grade level, and to

establish a procedure for annually adding new offerings and reoffering those that prove successful.

7. To develop a system for evaluating courses to insure their continuous revision and improvement.

To accomplish these objectives, 19 committees of teachers, principals, and supervisors were organized for every subject and grade level. These committees spent three summers developing courses and workshops through a rigorous process of defining instructional goals and working out the methodology required to achieve them. One or two teachers developed a given course, assisted by a principal, an instructional supervisor, and a college consultant. These teachers worked as part of a committee representing one subject area (high school) or set of grade levels (elementary school). Though each teacher or set of two teachers developed a specific course, they met periodically with their whole committee to review objectives and receive suggestions from their colleagues.

By and large, the process worked well and produced courses of high quality. The weakest aspect of teacher performance was defining instructional goals. The fact that these highly regarded teachers had so much difficulty with instructional objectives is a commentary on the failure of teacher education schools to produce competence in this important aspect of teacher education. The number of teachers involved in this project and their uniformly high ratings as classroom teachers fairly well rule out the possibility that individual competence was a factor in the problems encountered. The strongest aspect of the procedure was the experience and classroom know-how these teachers brought to course preparation and to the teaching of in-service classes.

In attempting to develop a program for teacher improvement in a city school system, size alone creates problems that can be fully appreciated only by educators who have worked in large school systems. The Carnegie Program involved the direct participation for three summers of every instructional supervisor in the system, a large number of school principals, and over three hundred teachers; from three to six meetings of each of nineteen committees during each of two different school years to prepare for the summer development work; dozens of meetings to lay the groundwork for acceptance of the program by teachers, principals, supervisors, and others whose participation was essential to the success of the program; and a great many meetings with college and university staff members to arrange for consultant help and to establish a basis for granting college credit for in-service courses. In spite of these efforts, communications were difficult and a deterrent to progress throughout the two years. It may be stated categorically that if the Portland staff of instructional supervisors had not been an extremely dedicated group, and if they had not had extended prior experience in group processes, it would not have been possible to develop courses of the number and quality that were produced in two short years.

To give the reader some idea of the coverage, a list of courses developed in three of the nineteen areas is shown here:

English

Technical Theater for Secondary Schools

Advanced Composition for Teachers
Grammar of English
Introduction to the English Language
The Novel
Oral Interpretation for Classroom Use
Reading and Writing for Reluctant Learners
Speech Analysis
Speech Critique
Staging in the Elementary Schools
Survey of English, Grade 10
High School Composition: A Practical Approach to the Guide
Aids in Teaching English
Enrichment Program for Speech-Drama, Writing, and Literature in the Upper-Grade Curriculum

Industrial Education

Creative Drafting
Industrial Design
Inert Gas Welding
Milling Machine Metal Work
Occupational and Vocational Information
Creating and Evaluating Teaching Materials
Practical Application of Basic Electronics
Updating Elementary Drafting
True Position Dimensioning
Graphic Arts for Industrial Education Instructors
Practical Application of Basic Electronics (Revised)—Parts I and II

Elementary K-3

Learning Through Sensory Impressions
Take Another Look at Reading
Story Telling and Creative Dramatics
Organization of a Classroom for Efficient Learning
Economic Understanding for the Primary Child
Developing Positive Attitudes in Children
Planning and Organizing Independent Activities
Organizing the Instructional Program—First Grade
Organizing the Instructional Program—Second Grade
Handwriting for the Primary Teacher
Before Books—Developing Language Power

The variations in content and difficulty of these courses and workshops reflect the many concerns of the practicing teachers of a large city school system. Every committee that took part in deciding what courses to develop listed at least two additional possibilities for every one chosen; and interestingly enough, teachers were found with some degree of expertness to develop and teach almost every one of these courses. A mine of talent exists among the several thousand teachers in a city school system, a mine not ordinarily prospected and developed. Perhaps the greatest achievement of the Carnegie Program was the identification of talented teachers and the development and use of their talents for the improvement of the entire teaching staff.

In most school systems, as was formerly true in Portland, in-service education is the responsibility of overworked instructional supervisors, always too few in number to answer the requirements of a truly effective in-service program. By enlisting outstanding teachers and giving them the time and help needed to produce

courses and workshops, a great array of skills and knowledge was assembled to help the instructional supervisors in their battle for the betterment of teaching.

From the start of this project, an effort was made to interest the state's college and university teacher education personnel in helping the Portland schools develop an improved in-service program. In particular, an effort was made to work with Portland State College, the state institution closest to the Portland schools and, in the long view, best able to assist the district in the continuing education of its teachers.

An arrangement was made for a review by School of Education staff members of courses developed under the Carnegie Program to see whether or not they should be offered for college credit. Both the content of a course and the credentials of the public school teacher selected to teach it had to be approved before credit was granted. In the second year of the program, PSC School of Education staff members also served as consultants to the teacher committees developing new in-service courses. The experience of helping outstanding teachers develop in-service courses proved stimulating to the teachers and to the professors. Such experiences increase respect between school and college faculty members and reveal that each has much to offer the other. It was a revelation to college personnel to see the dimensions of public education not included in standard teacher preparatory curricula. On the other hand, the college personnel's knowledge of their fields and of course development procedure was recognized and appreciated by the public school teachers.

College personnel also played other roles. When a citywide science in-service program was initiated, a Portland State professor made critical reviews of course outlines and then visited many classes to discuss his impressions with the teacher-instructor. In other instances, professors of subjects such as English composition or chemistry taught in-service courses themselves or team-taught with public school teachers. The objective of the Carnegie Program was to use the combined resources of the college and the school system to produce the strongest possible program of in-service education.

Suburban school districts were invited to send teachers to Carnegie classes, paying only as much tuition as needed to defray a fair share of instructional costs. Many suburban teachers attended these Portland classes, and in many instances, the school district from which they came paid their tuition. The courses appeared to meet with great favor with nonresident teachers.

This arrangement is mentioned because it is impossible for smaller school systems to maintain in-service classes in all areas of the public school program; yet, by participating in a program maintained by a larger system, they can have all the benefits of the program at reasonable per-teacher cost. Such arrangements hold great promise for extending the benefits of in-service education while strengthening understanding and respect between city and suburban school systems. A limited number of suburban teachers were used on course development committees, and it is hoped that this practice can be expanded.

A further experience that should be related concerns the effect of school district organization on in-service education. Mid-

way in the Carnegie project, the administration undertook a reorganization in which five elementary school areas were created and a director, who assumed responsibility for curriculum and instruction as well as administration, placed in charge of each area.

Although the original plan was fitted to a centralized district organization, the design was quickly modified and funds placed at the disposal of directors to develop in-service programs within each area. The response was immediate and surprising. Within a few months, each director had completed plans for training a corps of science in-service instructors who, in turn, were to conduct a citywide series of courses in the new AAAS and ESI science programs. With the help of the district science supervisor, these plans were carried through with great success. The Oregon Museum of Science and Industry produced several hundred kits of materials for use in the program. The point here is that giving funds for in-service education to area directors stimulated imaginative proposals and, more importantly, led to a far greater degree of teacher participation than was being achieved through the citywide approach. For instance, a course entitled "Organization Dynamics in the Classroom" drew a larger enrollment when offered as an area course than it did when first offered citywide to almost five times as many teachers.

The improved communication with teachers that can be achieved under decentralized organization and the more direct access to principals and teachers enjoyed by area directors appear to be the key factors in Portland that led to better teacher participation. An important by-product of this arrangement was the change in attitude of area directors and principals toward instructional supervisors. When faced with the hard realities of course development and the necessity to produce something of value to teachers, these administrators suddenly discovered the value of instructional supervisors. Supervisors who for years had had difficulty establishing effective working relations with certain principals in instructional improvement suddenly found their services in demand. This new-found respect for the supervisor created a team spirit that is certain to result in improved teacher education, and it appeared to be a direct outcome of the new organization.

Use of Objectives in Planning In-service Courses

Perhaps the most lasting effect of the Carnegie Program will be the experience of over three hundred teachers in planning courses by specifying objectives of instruction, then designing learning experiences to achieve those objectives. It is somewhat surprising that with thirty or more years of writing on the subject to be found in the literature of the profession the typical classroom teacher still does not think about or plan instruction in terms of objectives. The attention given this matter in designing in-service courses under the Carnegie Project exposed teachers, supervisors, and principals to this procedure to a degree seldom experienced in a large school system. The greater precision of purpose and sense of direction it gives to teachers commend its wider use in school systems wherever instructional planning is required.

Problems encountered most often among teachers writing objectives were (1) lack of precise, unambiguous terminology, (2) difficulty in distinguishing a purpose from a procedure ("Show a film explaining the irrigation practices of ancient Rome" is not an objective but a procedure), (3) difficulty in expressing objectives as behavior that can be observed or measured, and (4) difficulty in organizing objectives to have logical consistency with regard to degree and kind.

During the course-developing periods, the committees experimented with objective-writing procedures to attempt to refine and improve them. A form (illustrated below) for recording objectives and learning experiences was developed:

Organizing Objective	*Learning Experience*	*Concomitant Objective*	*Method of Evaluating*
To be able to discover a child's self-concept a) through behavioral clues b) through finding out what the child has experienced c) by finding out past successes and failures	Have a psychologist discuss ways of understanding self-concept through behavior exhibited in class and in playground (class questions for psychologist) Present slides of children in various situations. Raise questions: What clues to self-image can be seen? What implications can be drawn from these clues? Discuss types of information that are not useful to record and reasons for this.	To be able to evaluate the kinds of information most useful to record on cumulative records.	Have teachers each study and evaluate the behavior of one or two children. Review their records and conclusions.

This format permitted teachers who were relatively inexperienced in course construction to develop workable (though not technically polished) courses in three weeks. It will be noticed first that there are two types of objectives shown. In the first column is the organizing objective, which normally provides the unifying idea around which a logical, consistent pattern of instruction can be built. In the third column are found concomitant objectives, which permit fuller development of the educational values that can logically be exploited as the major (organizing) objectives are pursued.

Use of this format circumvents several problems posed by the less flexible conventional format with only one column

for objectives, one of which is the difficulty of using several different kinds of objectives (concept development, thinking skills, social development, etc.) while retaining unity and continuity of form. Since objectives dictate the sequence and character of learning experiences, it is apparent that logical consistency of the objectives is a prerequisite to logical consistency of the learning experiences designed to achieve them. When using the old format, this consistency was virtually impossible to get, but with the introduction of concomitant objectives, it became possible to formulate a series of organizing objectives that are consistent in degree and kind. The concomitant objective column can then be used to record objectives of a wide range of character.

The foregoing excursion into objective-writing theory only highlights the major points that emerged from the Carnegie course-writing experience. One further point might be made, however, that the true worth of an objective must be measured more in terms of its educational merit than of its technical excellence (conciseness of language, behavioral form, etc.). On the other hand, other things being equal, a technically excellent objective will be of far greater help to a teacher in understanding his own purposes and selecting appropriate learning experiences than an objective stated in ambiguous, general, or nonbehavioral terms.

Evaluation

A serious attempt was made to evaluate the in-service courses developed under the program. Two approaches were used, one formal and the other informal. The formal evaluation has not yet been completed, but it was carried out by assigning five evaluation "experts" to selected committees, where they drew objectives directly from courses being developed and constructed test items to measure teacher learning and, for later use, student learning. Most of the teacher tests have been administered, with gains shown in most areas. The significance of these gains unfortunately cannot be ascertained through statistical tests. Gains of several raw score points were made in most instances, but the question still remains, Was what was learned really worth the expenditure of funds? The same question will plague evaluators if results of student testing show similar gains (tests are being administered to students taught by teachers who took in-service classes).

Most heartening, though more subjective, were the results of the informal evaluation. Teachers mailed structured responses evaluating each class to a director of evaluation who, after extracting the principal implications, reviewed them with the in-service class instructor. This procedure was highly productive, and the service appeared to be appreciated by the instructors.

Summary

The ultimate effects of the Carnegie Project may never be known. To the director, its main achievements were:

1. A heightened interest in using objectives in instructional planning among a large group of teachers, supervisors, and principals.
2. An observable professional growth on the part of more than three hundred teachers who took part in course planning and teaching.

3. An enlargement of the coverage of in-service education to include all teachers in the district.
4. A sharper focus on teaching needs as teachers see them.
5. A tightening of the rigor and quality of school-district-sponsored, in-service education.
6. A marshalling of resources for in-service education to assist the embattled instructional supervisors.
7. The identification and development of talented teachers, with their implications for improved morale, as well as fuller utilization of resources.